

POST PROJECT EVALUATION FOR A CM/GC PROJECT

Project Name: Aquifer Storage and Recovery Improvements at Woodmansee Park Project
Exemption Approval: Council Meeting, April 27, 2020
Contractor: Slayden Constructors Inc. (SCI)

PROJECT DESCRIPTION

The project constructed improvements to the City of Salem's Aquifer Storage and Recovery (ASR) wells at Woodmansee Park including a new water treatment facility, new water pipeline connections for improved distribution of well water, access road improvements, and rehabilitation of the existing wells. This project is among one of many recent projects that are a part of Salem's long-term plan for providing safe and reliable drinking water.

INTRODUCTION AND BACKGROUND

The City of Salem (City) maintains an ASR facility to provide a supplemental water source for the community. The ASR facility is located in Woodmansee Park, near the intersection of Sunnyside Rd SE and Woodmansee St SE in Salem, OR. The ASR facility consists of four existing injection/withdrawal wells (Wells 1, 2, 4, and 5) of varying capacity, located atop a confined aquifer. Each well had been equipped with an individual water disinfection system. The total capacity of the ASR wellfield is approximately 8.6 million gallons per day.

The ASR facility is used as a secondary water supply for the City, storing excess surface water produced by the Geren Island Water Treatment Facility during the winter low-water demand period. Water is then recovered from the wells to provide a supplemental source of water during the peak summer demand.

The ASR facility required improvements to address updated regulatory requirements and to improve operation and maintenance. The goals for the treatment facility portion of this project included:

- Address updated Lead and Copper Rule (LCR) regulatory requirements.
- Address elevated levels of Disinfection By-Products (DBPs) in the recovered water from the wells, which can affect water characteristics such as taste and odor.
- Provide a centralized treatment facility to meet updated LCR requirements and reduce formation of DBPs, and consolidate individual well disinfection systems into a single facility.

Although the City has not exceeded regulatory limits for lead or copper, following a system evaluation in 2017 the Oregon Health Authority (OHA) required the City to establish minimum pH and alkalinity goals for water being recovered from the ASR wells. In their evaluation, OHA noted that, based upon a review of historic data, the City was also required to construct corrosion control facilities to meet the minimum pH requirements. In 2019, OHA approved the City's plan to construct a new water treatment facility at the project location to meet

these requirements and mandated completion of this work by August 31, 2021, which was later extended to November 30, 2021.

Due to the complexities of the project and the relatively short timeline to deliver, City staff recommended delivering the project using a form of alternative contracting known as Construction Manager/General Contractor (CM/GC). The CM/GC method allows for contractor involvement at the beginning of the design phase to develop the most cost-effective solution that can be delivered in a shorter overall construction duration, compared to traditional design-bid-build contracting methods.

On April 27th, 2020, City Council, acting in its capacity as the local contract review board, approved staff's recommendation by adopting findings in support of an exemption from the typical competitive bidding process and authorized the use of a CM/GC contracting method for design and construction of this project.

Oregon Revised Statute (ORS) 279C.355 and Public Contracting Rules (PCR) 9.7 require a final evaluation of the public improvement project upon its completion. The evaluation must include the following:

1. Financial information consisting of cost estimates, the Guaranteed Maximum Price (GMP), contract changes, and the actual cost.
2. A narrative description of successes and failures during the design, engineering, and construction of the project.
3. An objective assessment of the use of the alternative contacting process as compared to the findings required by ORS 279C.355.

FINANCIAL INFORMATION

The original project budget was funded with \$2,505,000 Water System Development Charges (SDC) funding and \$10,220,000 Utility Revenue Bond funding. The total project budget was \$12,725,000.

Fund Source	Amount	Percent of Total
SDC	\$2,505,000	19.7%
Utility Revenue Bond	\$10,220,000	80.3%
Total	\$12,725,000	

In August 2020, the City awarded the CM/GC contract to Slayden Constructors Inc. (SCI). The original CM/GC Guaranteed Maximum Price (GMP) was \$8,059,479 including the preconstruction phase of the Project. An amendment for the second phase of the project to rehabilitate existing wells increased the GMP to \$9,038,253. Final GMP reconciliation resulted in a reduction of \$503,423 for a reconciled GMP amount of \$8,534,830. The City approved amendments at key points in the contract to maximize efficiency of the work. Other project costs not included in the GMP make up the difference between the total budget (less

savings) and the GMP. These costs include City project management, consultant engineering, inspection, testing, permit fees, and easement acquisition.

PROJECT SUCCESSES AND FAILURES

Overall, design and construction to the improvements to the ASR system was a success. The final project met OHA's mandated completion deadline. The project also contributes to meeting the long-term plan for continuing to providing safe and reliable drinking water to the community. Some specific examples of benefit added to the project by the CM/GC method are as follows:

- Early contractor/designer/owner collaboration to consider design elements and weigh costs against the criticality of the improvement. This allowed the project team to develop accurate cost estimates earlier and value engineer certain design elements during design to ensure the project goals were met with the best value. This process occurred sooner and more efficiently than possible with a normal design-bid-build project.
- Project construction began in early 2021 at the height of the Covid-19 pandemic and at a time of significant cost escalation and disruption in material supply chains. This resulted in tremendous uncertainty regarding cost and material timelines. However, with the developed relationship between the City and SCI, through the CM/GC process, the Project continued uninterrupted with only minor impacts to scope and schedule. SCI was able to work collaboratively with the project team to identify workarounds or alternative products for long-lead time items and keep the overall schedule of the project on track.
- The communication within the CM/GC team between the City, designer, and contractor, during design and construction, allowed for issues to be resolved early and within the overall project contingency, resulting in an overall of \$503,423 returned to the City.

OBJECTIVE ASSESSMENT OF ALTERNATIVE CONTRACTING PROCESS

ORS 279C.355 requires contracting agencies to submit evaluations for public contracts that have been exempted from the typical competitive bidding process. In April 2020, Council adopted findings in support of an exemption from the typical competitive bidding process and authorized the use of CM/GC contracting for design and construction of the ASR Project.

Alternate contracting processes provide agencies with another tool to respond to the challenging demands of delivering complex projects. In particular, the CM/GC contracting method can provide for overall project cost and time savings. The following is provided to meet the requirements of the ORS.

One of the key distinctions of the CM/GC method is the early involvement of the contractor on the project. This allows for collaboration and relationships to be built among the project team which directly leads to cost and time savings on the project. An essential part of each construction project is the value engineering evaluation. Value engineering is the means used to determine the best project design that meets the needs and priorities of the City, within the City's budget. Value engineering is done most effectively by a team consisting of the City, consultant, and the contractor. When the contractor participates, the team can render the

most comprehensive evaluation of all factors that affect the cost, quality, and schedule of the project. The CM/GC method allows agencies to set the schedule and sequence work with the contractor during the design phase of a project. Through integrated participation, a project's scope and design evolve to bring greater value for the City in a way that is very difficult to achieve by the design-bid-build method.

Additionally, contracts with CM/GC are designed to create a better working relationship with the contractor. Consequently, contractors indicate that overhead and profit fees are slightly lower than what would be anticipated on similar design-bid-build contracts.

This method also results in fewer change orders during construction. As a result, the project is more likely to be completed on time and within budget. Fewer change orders reduce the administrative costs of project management for both the City and the contractor.

In summary, the CM/GC contracting method provided for the successful delivery of the required improvements and is an effective and efficient tool for public agencies to deliver projects. The ASR Improvements at Woodmansee Park Project was able to realize the benefits of cost control, better information for decision making, improved teamwork, and less risk for contract disputes. The CM/GC delivery method proved to be a success for this project resulting in ASR facility improvements that support Salem's long-term plan for providing safe and reliable drinking water.